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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/729,737

12/05/2003

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05/14/2007

EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1774

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/729,737	Applicant(s) KONDAKOVA ET AL.	
	Examiner Dawn Garrett	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-30 is/are pending in the application.
- 4a) Of the above claim(s) 5, 17 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4, 6-16, 18-22 and 24-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 13, 2007 has been entered.
2. The claim amendment filed January 16, 2007 has been entered. Claim 1 was amended. Claim 2 is canceled. Claims 1 and 3-30 are pending. The elected species are the following: Phosphorescent guest material "tris(2-phenyl-pyridinato-N,C^{2'})iridium(III)", as the host material carbazole material "4,4'-N,N'-dicarbazole-biphenyl", and as the efficiency enhancing material "4,4',4''-Tris[3-methylphenyl]pheylamino]triphenylamine". Claims 5, 17, and 23 are withdrawn as being directed to non-elected subject matter. Claims 1, 3, 4, 6-16, 18-22 and 24-30 are currently under consideration.
3. The rejection of claims 1, 3, 4, 6-16, 18-22, and 24-30 under 35 U.S.C. 112, second paragraph, is withdrawn due to the amendment.
4. The rejection of claims 1, 3, 4, 6-16, 18-22 and 28-30 under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 2002/0086180 A1) is withdrawn due to the declaration of Marina Kondakova under 37 CFR 1.132 signed January 16, 2007 showing unexpectedly better using MTDATA over NPD.
5. The rejection of claims 24-27 under 35 U.S.C. 103(a) as being unpatentable over Seo et al. (US 2002/0086180 A1) in view of Tokito et al. (US 2003/0091862) is withdrawn.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 4, 6-16, 18-22, 24 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamansky et al. (US 2004/0062947 A1). Lamansky et al. discloses organic electroluminescent compositions comprising 1) a charge transport matrix, 2) at least one non-polymeric emissive dopant, and 3) at least one tertiary amine (see abstract). The compositions are used to form a layer for an OLED (see par. 19-21). The charge transport matrix may comprise small molecules such as 4,4'-bis(carbazol-9-yl)biphenyl (CBP) (see par. 44) (per the instant "host"). The emissive dopant may comprise phosphorescent chelated complexes of iridium (see par. 51) having phenylpyridine (ppy) as the ligands (see par. 54) (per the instant "phosphorescent guest material"). With regard to the "efficiency enhancing material", MTDATA is a preferred tertiary aromatic amine for the composition (see page 11). It would have been obvious to have selected CBP, Ir(ppy)₃, and MTDATA for a composition to comprise a layer for an OLED, because Lamansky et al. teaches each of the materials, respectively, as the charge transport matrix, at least one non-polymeric emissive dopant, and at least one tertiary amine for the composition. With regard to amounts per instant claims 11-14, Lamansky teaches device structures having MTDATA in an amount of 28% of the composition and an iridium compound in an amount of 3% of the composition (see Table 2). It would have been obvious to have formed a device having MTDATA in an amount of 28% of the

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composition of the mixed layer and 3% Ir(ppy)₃ of the composition of the mixed layer, because Lamansky teaches such levels are desirable for an operational device.

Because Lamansky discloses the same materials as applicant, the properties of claim 1 are deemed to be inherently met by the reference. With regard to claim 23, it would have been obvious to one of ordinary skill in the art to have further incorporated an additional host material other than CBP, because absent evidence otherwise, “[i]t is *prima facie* obvious to combine two compositions taught by the prior art as useful for the same purpose, in order to form a third composition which is to be used for the very same purpose” (see *In re Kerkhoven*, 205 USPQ 1069, 1072 (CCPA 1980); *In re Susi*, 169 USPQ 423, 426 (CCPA 1971); *In re Crockett*, 126 USPQ 186, 188 (CCPA 1960)). Lamansky et al. teaches a color filter may be used with the device in order to achieve a desired color (i.e., white light) (see par. 92) per claims 24 and 27. It would have been obvious to one of ordinary skill in the art to have included a color filter in the Lamansky et al. device, because a filter is a commonly known means of achieving desired light emission color. With regard to claims 28-30, Lamansky discloses displays incorporating the devices (see par. 19).

8. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamansky et al. (US 2004/0062947 A1) in view of Tokito et al. (US 2003/0091862). Lamansky et al. is relied upon as set forth above. Lamansky et al. teaches incorporating a green phosphorescent material in the light emitting layer (the iridium compound), but fails to teach specifically a red or blue phosphorescent material may be also be used. Tokito et al. teaches in analogous art the use of blue or red phosphorescent material as equally suitable for a light emitting device as a green phosphorescent material (see par. 117). It would have been obvious

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for one of ordinary skill in the art at the time of the invention to have made a device comprising red emitting and blue emitting phosphorescent compounds in addition to the green emitting iridium compound, because Tokito et al. teaches red emitting and blue emitting phosphorescent compounds that are equally suitable as a phosphorescent material in a light emitting layer. It would have been obvious to have incorporated additional luminescent materials, because they are useful for the same purpose (i.e., light emission).

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett
Primary Examiner
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